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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,276	06/27/2003	Michael A. Centanni	ST8010US	8508
22203	7590	05/16/2005	EXAMINER	
KUSNER & JAFFE HIGHLAND PLACE SUITE 310 6151 WILSON MILLS ROAD HIGHLAND HEIGHTS, OH 44143			SINES, BRIAN J	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 05/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/608,276

Applicant(s)

CENTANNI, MICHAEL A.

Examiner

Brian J. Sines

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 25-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-24, 45, 54 and 57-60 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 55 and 56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 – 24 & 45 – 60, drawn to a sensing apparatus, classified in class 422, subclass 82.01.
- II. Claims 25 – 44, drawn to a sensing apparatus, classified in class 422, subclass 82.01.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case, the different inventions have different modes of operation. For example, the sensing apparatus of invention I, as recited in claim 1, does not specifically require the incorporation of a host material and an additive, as required for the sensing apparatus of invention II, as recited in claim 25.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

During a telephone conversation with M. Jaffe on 4/20/2005 a provisional election was made without traverse to prosecute the invention of group I, claims 1 – 24 and 45 – 60. Affirmation of this election must be made by applicant in replying to this Office action. Claims 25 – 44 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 102***

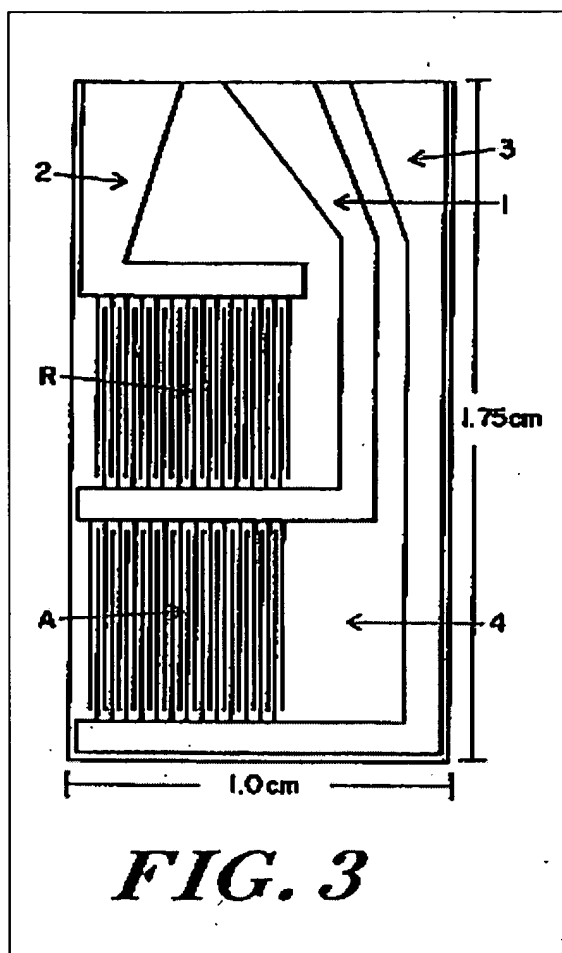
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Guiseppi-Elie (U.S. Pat. No. 5,352,574 A).

Regarding claims 1 & 2, Guiseppi-Elie anticipates a sensing apparatus comprising: a sensing element comprising an electroactive material (e.g., a polymeric film deposited on interdigitated grid area A); and a concentration determination means, which is based upon change in electrical conductivity (see col. 6, lines 14 – 28; col. 7, lines 3 – 11; figure 3). Guiseppi-Elie indicates that the disclosed sensing apparatus is suitable for use in sensing gaseous samples (see col. 11, lines 3 – 12).



Guisseppi-Elie teaches all of the positively recited structural limitations of the claimed apparatus. The recitation that the sensing apparatus is utilized for the detection of *vaporized* hydrogen peroxide *inside of a chamber* is considered a process or intended use limitation. The Courts have held that it is well settled that the recitation of a new intended use, for an old product, does not make a claim to that old product patentable. See *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). The Courts have held that apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The Courts have held that the manner of operating an apparatus does not

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differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) (see MPEP § 2114).

Regarding claim 3, Guiseppi-Elie teaches the incorporation of polyacetylene for detecting hydrogen peroxide (see col. 7, lines 3 – 11).

Regarding claims 4 & 5, Guiseppi-Elie teaches the incorporation of dopants, such as iodine (see col. 3, lines 1 – 18).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 6 & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiseppi-Elie in view of Nahass et al. (U.S. Pat. No. 5,651,922 A) (hereinafter “Nahass”). Guiseppi-Elie does not specifically teach the incorporation of a pitch-based carbon/graphite fiber material. Guiseppi-Elie does teach the incorporation of a bromine dopant (see col. 3, lines 4 – 18). Nahass teaches the incorporation of a pitch-based carbon

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fiber in the manufacture of conductive polymers in order to modify or increase the conductivity of the conductive polymers (see col. 1, lines 15 – 39). The Courts have held that the selection of a known material, which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) (see MPEP § 2144.07). Therefore, it would have been obvious to a person of ordinary skill in the art to provide for the claimed apparatus as recited in claims 6 & 7.

2. Claims 10 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiseppi-Elie in view of Zakin et al. (U.S. Pat. No. 5,145,645 A) (hereinafter “Zakin”). Zakin does teach the use of a computer controlling and measuring means (74), which functions as a memory means, with a sensor, which utilizes a conductive polymer sensing material (see col. 7, lines 31 – 44). Hence, as evidenced by Zakin, a person of ordinary skill in the art would accordingly have had a reasonable expectation for success of utilizing a memory or processing means with a sensing device. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to provide for the claimed apparatus as recited in claims 10 – 12.

3. Claim 45 – 52 & 57 – 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guiseppi-Elie in view of Zakin et al. (U.S. Pat. No. 5,145,645 A) (hereinafter “Zakin”).

Regarding claims 45 & 57 – 59, Guiseppi-Elie teaches a method for sensing a concentration of a chemical component (see col. 11, lines 1 – 11). Guiseppi-Elie does not specifically teach the use of a computer process control and measuring means, which includes a memory feature, for storing a plurality of data sets including a value indicative of an electrical property measurement as a function of time exposure to the chemical component. Zakin does teach the use of a computer controlling and measuring means (74), which functions as a memory means, with a sensor, which utilizes a conductive polymer sensing material (see col. 7, lines 31 – 44). Hence, as evidenced by Zakin, a person of ordinary skill in the art would accordingly have had a reasonable expectation for success of utilizing a memory or processing means with a sensing device. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a memory as recited in claim 45.

Regarding claims 46 & 47, Guiseppi-Elie indicates the use of the disclosed sensor for sensing gaseous or vaporized hydrogen peroxide (see col. 7, lines 3 – 11; col. 11, lines 3 – 12). Hydrogen peroxide is well known in the art to be an antiseptic or sterilizing agent.

Regarding claim 48, Guiseppi-Elie indicates that the disclosed sensing apparatus can detect bromine (see col.3, lines 1 – 18).

Regarding claims 49 & 50, Guiseppi-Elie teaches the use of polyacetylene as a sensing material (see col. 3, lines 1 – 18).



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Regarding claims 51 & 52, teaches the incorporation of an iodine dopant (see col. 3, lines 1 – 18).

Regarding claim 60, polyacetylene is well known in the art to be semicrystalline, thus comprising both crystalline and noncrystalline phases, and therefore containing amorphous regions.

4. Claims 53 & 54 rejected under 35 U.S.C. 103(a) as being unpatentable over Guiseppi-Elie in view of Zakin, as applied to claims 45 – 52 & 57 – 60 above, and further in view of Nahass. Neither Guiseppi-Elie or Zakin specifically teach the incorporation of a pitch-based carbon/graphite fiber material. Guiseppi-Elie does teach the incorporation of a bromine dopant (see col. 3, lines 4 – 18). Nahass teaches the incorporation of a pitch-based carbon fiber in the manufacture of conductive polymers in order to modify or increase the conductivity of the conductive polymers (see col. 1, lines 15 – 39). The Courts have held that the selection of a known material, which is based upon its suitability for the intended use, is within the ambit of one of ordinary skill in the art. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) (see MPEP § 2144.07). Therefore, it would have been obvious to a person of ordinary skill in the art to provide for the claimed apparatus as recited in claims 53 & 54.

***Allowable Subject Matter***

Claims 8, 9, 55 & 56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, the cited prior art neither teach nor fairly suggest the further incorporation within the Guiseppi-Elie apparatus a heating means for increasing the temperature of the electroactive material.

Regarding claim 55, the cited prior art neither teach nor fairly suggest the step of heating the sensing element to increase the temperature thereof.

***Conclusion***

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. The applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this office action (see MPEP § 714.02). Yamamoto et al. teach pitch-based carbon fibers. Sanghera et al. teach a sensing apparatus comprising a conductive polymer. Guiseppi-Elie teaches chemical and biological sensors comprising an electroconductive polymer film. Musho et al. teach the use of conductive sensors in diagnostic assays. Zakin et al. teach a species selective sensor using a conductive polymer for sensing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571)

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272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Brian Lin". The signature is stylized with a large, looped initial "B" and a long, sweeping underline.